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10/617,172

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EXAMINER

CHEN, TIANJIE

ART UNIT

PAPER NUMBER

2627

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/617,172

Applicant(s)

KIM ET AL.

Examiner

Tianjie Chen

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-7,9,10 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-7,9,10,15-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Final Rejection (RCE)

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

a. The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 9, 10, 15-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 9 claims a disk clamp of a hard disk drive as described above, the disk clamp consisting of: an opening hole into which a shaft of the spindle motor is inserted, the opening hole being at the center portion of the disk clamp,

a substantially wave-shaped edge portion to press an upper surface of a disk in a vertical direction and distribute stress applied to the disk;

and an inner portion having a plurality of apertures arranged along a uniform circumference at predetermined intervals, the circumference being inside the substantially wave-shaped edge portion,

wherein an outer portion of the substantially wave-shaped edge portion is a pressing portion with a profile having a substantially curved shape with at least one bulge downward,

an inner portion of the substantially wave-shaped edge portion is a stress distribution portion with a profile having a substantially curved shape with at least one bulge upward, and

a radius of the substantially curved shape of the stress distribution portion is greater than or equal to a radius of the substantially curved shape of the pressing portion; and

the press portion and the stress distribution portion are continuously formed.

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As discussed in MPEP 2111.03, the transitional phrase "consisting of" excludes any element, step, or ingredient not specified in the claim.⁴ It means that the disk clamp claimed in these claims only has the elements as recited in the claims and has no other element at all. However, Applicant only discloses a disk clamp has a plurality of screw coupling holes on it, which is not recited by Applicant's claim. A disk clamp having no screw coupling holes is never disclosed in this Application.

The same situation happens for claim 9.

It clearly shows that claim 9 contain subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 10 and 15-17 are rejected for their dependence from claim 9.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 5, 7, 9, 10, 15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Masayuki (JP 10-162464A).

Claim 1, Masayuki shows a disk clamp in Fig. 4 of a hard disk drive to affix a magnetic disk that stores data to a spindle motor of the hard disk drive (Fig. 1), the disk clamp consisting of:

an opening hole into which a shaft of the spindle motor is inserted, the opening hole being at the center portion of the disk clamp,

a pressing portion formed along an outer circumference of the disk clamp at an edge portion, to press an upper surface of the disk in a vertical direction;

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a stress distribution portion formed inside the pressing portion and having a profile with a curved shape bulged upward to distribute stress applied to the disk; and

only one plurality of screw coupling holes with ends 70a and 70b (Fig. 7; [0042]) into which screws 52 are inserted (Fig. 4) to be coupled to an upper end portion of the spindle motor and provided at intervals of a predetermined distance along a uniform circumference with radius R1 (Fig. 3) inside the stress distribution portion,

wherein the press portion has a profile having a curved shape bulged downward, and a radius of the curved shape of the stress distribution portion is greater than or equal to a radius of the curved shape of the press portion (Fig. 4); the pressing portion and the stress distribution portion are continuously formed.

Claim 5, Masayuki further shows in Fig. 6 that the disk clamp has a same thickness throughout an entire portion of the disk clamp.

Claim 7, Masayuki further shows that the disk clamp is made of stainless steel (Column 5, lines 58-61), which is a metal material having a predetermined elasticity.

A "product by process" claim is directed to the product per se, no matter how actually made, see *In re Hirao*, 190 USPQ 15 at 17 (footnote 3 CCPC, 5/27/76); *In re Brown*, 173 USPQ 685 (CCPA 5/18/72); *In re Luck*, 177 USPQ 523 (CCPA, 4/26/73); *In re Fessmann*, 180 USPQ 324 (CCPA, 1/10/74); *In re Thorpe*, 227 USPQ 964 (CAFC, 11/21/85). The patentability of the final product in a "product by process" claim must be determined by the product itself and not the actual process and an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Applicant's claim 7 is a product claim, the limitation "manufactured by press processing" is a process related limitation, which gains no weight in determining patentability.

Claim 9, as described above, Masayuki further shows a disk clamp of a hard disk drive as described above, the disk clamp including:

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an opening hole into which a shaft of the spindle motor is inserted, the opening hole being at the center portion of the disk clamp,

a substantially wave-shaped edge portion to press an upper surface of a disk in a vertical direction and distribute stress applied to the disk;

and an inner portion having only one plurality of apertures arranged along a uniform circumference at predetermined intervals, the circumference being inside the substantially wave-shaped edge portion,

wherein an outer portion of the substantially wave-shaped edge portion is a pressing portion with a profile having a substantially curved shape with at least one bulge downward,

an inner portion of the substantially wave-shaped edge portion is a stress distribution portion with a profile having a substantially curved shape with at least one bulge upward, and

a radius of the substantially curved shape of the stress distribution portion is greater than or equal to a radius of the substantially curved shape of the pressing portion; and

the press portion and the stress distribution portion are continuously formed.

Claim 10, as described above, Masayuki further shows that the inner portion of the disk clamp is coupled by screws via the apertures to an upper end portion of a spindle motor of the hard disk drive.

Claim 15, as described above, Masayuki further shows that the disk clamp has a same thickness throughout an entire portion of the disk clamp.

Claim 17, as described above, Masayuki further shows that the disk clamp is made a metal material having a predetermined elasticity, and the limitation “manufacture by press processing” gains no weight in determining patentability.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masayuki in view of Bronshvatch et al (US 5,528,434).

Claims 6 and 16, Masayuki does not show the situation as the clamp is released from the spindle. Bronshvatch et al shows a clamp as it is released from the spindle in Fig. 6, which has a dome shape with a center portion bulged upward as a whole and, when the disk clamp is coupled to the spindle motor by the screws, the disk clamp is flattened as a whole (Fig. 7b, column 5, lines 44-49 and column 6, line 60-66). It is obvious at the time to one of ordinary skill in the art to expect that Masayuki's clamp also has such a dome shape bulge. The rationale is as follows: Bronshvatch et al teaches that the dome is necessary for clamping the disk and distributing the stress (Column 5, lines 44-49; and column 6, line 60 to column 7, line 4). One of ordinary skill in the art would have been motivated to expect the same structure in Masayuki's clamp for clamping the disc and distributing stress.

Response to Arguments

4. Applicant's arguments filed 02/14/2008 have been fully considered but they are not persuasive.
- Applicant's response to 35 USC §112 is not proper. Applicant is advised to read MPEP 2111.03 more carefully and response to the rejection properly.
 - Applicant argues that "Masayuki shows a 2nd set of screw holes provided in positions separated from the 1st holes as against the center of the disk retainer respectively."

It is obvious that Applicant has not read the rejection carefully enough. In last rejection, Masayuki's Fig. 7 was recited, and on which there is only one set of holes, the holes are all sitting on one circle.

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Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tania Chen whose telephone number is 571-272-7570. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/Tianjie Chen/

Primary Examiner, Art Unit 2627